Design Standard
Commissioning

Purpose:

East Side Union High School District requires new construction and renovation projects to be commissioned. Commissioning is a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meet defined objectives and criteria. The Commissioning process begins at project inception (during the pre-design phase) and continues through the life of the facility. The commissioning process includes specific tasks to be conducted during each phase in order to verify that design, construction, and training meets the owner's project requirements.

Design Standard:

1. Commissioning Team
    a. Contracted Commissioning Agent (CxA)
    b. Owner's Representative/Construction Manager (CM)
    c. General Contractor (GC)
    d. Architect and Design Engineers (AE)
    e. Mechanical Contractor (MC)
    f. Electrical Contractor (EC)
    g. Testing and Balancing Contractor (TB)
    h. Controls Contractor (CC)
    i. Facilities Maintenance & Operations staff (M&O)
    j. Any other installing subcontractors or suppliers of equipment.

2. Commissioning Agent: The contracted commissioning agent is hired by the owner directly, to perform services commencing with the predesign phase and ending with project closeout.

3. Roles and Responsibilities
    a. The CxA directs and coordinates the project commissioning activities and reports to the District.
    b. The AE team ensures that all requirements of the CxA are incorporated into the construction documents, so that construction period commissioning can be completed.
    c. All team members work together to fulfill their contracted responsibilities and meet the objectives of the contract documents.
    d. The commissioning process does not take away from or reduce the responsibility of the system designers or installing contractors to provide a finished and fully functioning product.

4. Commissioning Intent

a. Verify that applicable equipment and systems are installed according to the contract documents, manufacturer's recommendations, and industry accepted minimum standards and that they receive adequate operational checkout by installing contractors.
b. Verify and document proper performance of equipment and systems.
c. Verify that O&M documentation left on site is complete.
d. Verify that the owner's operating personnel are adequately trained.

5. Equipment and Systems to be Commissioned
    a. Chillers and Towers
    b. Boilers and related equipment
    c. Chilled water system and pumps
    d. Hot water system and pumps
    e. Steam system and components
    f. Air Handling Units (with supply, return and outside air duct, variable air volume boxes and units, air distribution equipment, fan coil units, unit heaters, etc., and temperature control system)
    g. Exhaust air systems (including fans, ductwork and interconnection with air handling/supply systems)
    h. Supply or make-up air systems (including fans, ductwork and interconnection with air handling and/or exhaust systems)
    i. Specialty air removal/ventilation systems (including fans, ductwork and interconnection with air handling/supply systems)
    j. Potable water system (including backflow preventers, fixtures, piping cleaning and flushing, hot water generators, and booster pumps)
    k. Sanitary drainage/sewer system
    l. Storm drainage system
    m. Emergency power system (including emergency generator, automatic transfer switch and fuel oil system)
    n. Lighting systems (interior and exterior)
    o. Switchgear, transformers, panelboards and/or motor control centers
    p. Lightning protection and/or surge suppression system
    q. Access control and alarm monitoring system
    r. Elevator systems
    s. HVAC, Test, Adjust, and Balance
    t. Building Management System

Approved Manufacturers

- Not applicable

Substitutes Allowed?

- Not applicable

Associated Design Standards and Construction Specifications

- 23 05 93 Testing, Adjusting, and Balancing

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